

Abstract

The subject invention pertains to a method and apparatus for cooling. In a specific embodiment, the subject invention relates to a lightweight, compact, reliable, and efficient cooling system. The subject system can provide heat stress relief to individuals operating under, for example, hazardous conditions, or in elevated temperatures, while wearing protective clothing. The subject invention also relates to a condenser for transferring heat from a refrigerant to an external fluid in thermal contact with the condenser. The subject condenser can have a heat transfer surface and can be designed for an external fluid, such as air, to flow across the heat transfer surface and allow the transfer of heat from heat transfer surface to the external fluid. In a specific embodiment, the flow of the external fluid is parallel to the heat transfer surface. In another specific embodiment, the heat transfer surface can incorporate surface enhancements which enhance the transfer of heat from the heat transfer surface to the external fluid. In another specific embodiment, an outer layer can be positioned above the heat transfer surface to create a volume between the heat transfer surface and the outer layer through which the external fluid can flow.